# Computers and Kids

## *A new center offers children hands on experience*

By Edith Holmes

PHOTOGRAPHS BY LILLIAN M. O'CONNELL

*"Hello. My name is Chevella," she types into the keyboard and onto the terminal's face. "I am here today to find out who you are." Twelve years old, she sits back and waits for a response. Nothing happens. She tries again. "Hello. My name is Chevella. . ."*

*Two ten-year-old boys sit at the terminal. They play "Kingdom," a computer game where players become rulers tasked with managing land and crops to feed the Kingdom's population. "How are you doing?" an observer asks after watching the boys manipulate acres and grain on the screen. "Not too well," says one boy, frowning. "We just starved 177 people."*

Three children and two encounters with a brand new room at the Capital Children's Museum in Washington, D.C. called the "Future Center." Filled with 20 personal computers, the room is a focal point for a major communications exhibit that is under construction and scheduled to open later this year. A computer classroom, the center is designed to give the public access to computers and their uses that go beyond arcades and "Space Invaders." It is intended to take the fear out of information technologies. It is a chance to see the future before it becomes the past.

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Unlike much of the four-year-old museum which is designed for children aged four through ten, the Future Center and communications exhibit are for an older crowd—starting at about age eight. At the same time, the center and exhibit are very much in the hands-on tradition of the rest of the place, where children are invited daily to make their own tortillas, dress up in the garb of city workers, and crawl through a manhole. The personal computers donated by Atari invite children and their parents to touch technology and find out what can be done with it.

### A computer birthday party

Beginning at the end of June, the center will teach eight classes throughout the week. These courses will range from "A First Time for Teachers," aimed at instructors for grades one through eight who have no experience with microcomputers, to "Draw! A Short Look at Computer Graphics," for children aged ten to 15 to introduce them to the visual and artistic side of computing. The Future Center can even be the site of a computer birthday party.

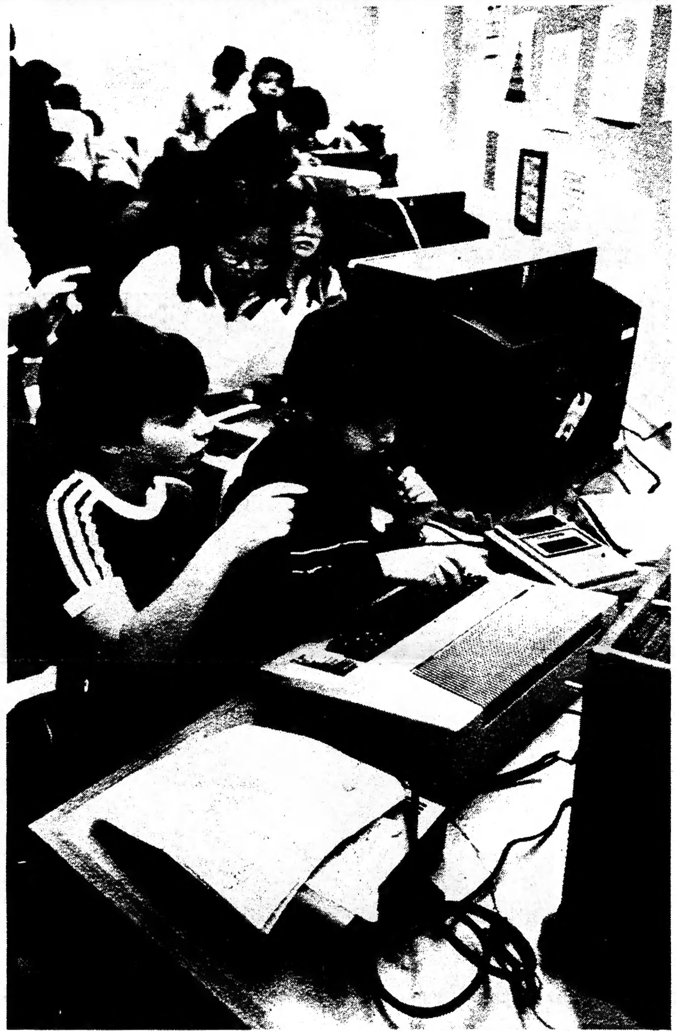
When they opened the center on 25 April, the museum's staff also introduced three computer programs they had designed to enhance existing exhibits. "Centimeter Eater" is displayed in the museum's exhibit on metrics and invites the player to judge how many centimeters make up a line on the terminal screen. Complete with sound effects, a worm eats his way down the line, biting off one

Judy Muntner, a Montgomery County, Md., teacher of the gifted and talented, will be one of the teachers in the future center.

For a first time user, mastering the language can require some guidance.

centimeter of it at a time. If the player has guessed the line's length and the centimeter eater polishes it off, the Atari 800 micro computer plays a joyful tune. If not, "too short" appears on the screen and the player gets the chance to try again. Two other programs, "Weave" and "Paint" add to the "Mexico" and "Pattern and Shape" exhibits in similar ways.

Ultimately, the heart of the computer-linked museum and of the communications exhibit will be a Digital Equipment Corp. PDP 11/70 minicomputer and support hardware, including a printer, video terminal, and disk pack. DEC donated 80 percent of this system, worth more than $242,000 and challenged the Capital Children's Museum to raise the remaining 20 percent by March 1982. Housed in a room with a wall-sized window so that kids and their parents can see it, the computer system will drive a time-sharing system called "Kid-Net." Essentially a series of computer programs that the museum will develop, Kid-Net will let museum visitors plug into a data base, access a conferencing system, generate and edit text, retrieve information, use an electronic library, play games, and learn about interactive graphics. The time-sharing system will be the vehicle the museum will use to create



**Introduced to the technology through arcade games, most children make the switch to education easily and seem fascinated by the experience.**

educational software it hopes can be exported for use elsewhere.

### The exhibit itself

Kid-Net will take years to develop, museum officials concede. But the communications exhibit is within closer reach and should be finished before the year is out. In addition to the control room with the DEC equipment, the exhibit will have eight major segments, all funded with the help of several companies and government agencies. A replica of an Ice Age cave of 30,000 years ago will seat 50 people for a sound and light show introducing the exhibit's themes. The cave will show how early man communicated the information he needed to survive, through the walls of the cave itself. Nearby in the storyteller exhibit, visitors can settle into a living room-like space and listen to some of the wealth of the world's folklore, presented on tape or by a live storyteller.

Visitors can explore how people communicate using a Greek torch, an African drum, hieroglyphics, pictograms, color patterns, the alphabet, Morse code, Braille, and more to send messages to each other. Then, in the "hall of information," kids and their parents will walk past a variety of information storage devices, from knotted string chains, wooden tally sticks, and clay tablets to punch cards, tape, and disks. Microscopes will let visitors compare the amount of information that can be stored on one-square inch of ultrafiche, disk, semiconductor chip, and the human brain. A computer game will challenge players to select and use information wisely to avert crises.

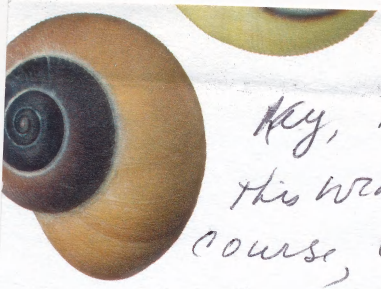
A scriptorium and a print shop placed side-by-side in the mass communication section of the exhibit will suggest how the invention of movable type gave people access to ideas, creating a "public" by putting information in the hands of many people at the same time. Visitors can make and marble paper, they can examine a holograph, and they can study animation techniques, among several other activities.

Forming a ring around the satellite exhibit to show that this is the technology that links them, the radio, telephone, television, and computer exhibits for the telecommunication section. A radio theatre presents a three-minute sound trip through seventy years of changing lifestyles. Small radio and tv production studies will encourage children to experiment with these media. Older children will be able to use these facilities to make their own commercials or viewpoints or newscasts for their schools.

On an early switchboard in the telephone exhibit, visitors will connect calls and listen to taped conversations ranging from giggling teenagers to two officials buying services for the government. A network map will show the tangle of telephone lines across the country in 1900, 1940, and 1980. The satellite exhibit will raise questions about who owns information. Visitors can practice aiming two small earth stations to receive the satellite's signal and they can see the museum's 5-meter dish outside on the grounds.

Finally, the computer exhibit will dramatize the rapid drop in cost and size that eventually could put a processor in the hands of every individual. Here, Kid-Net will permit a host of opportunities for experiments by visitors.

In the "Hear and Beyond Room," some 25 visitors will find themselves faced with problems to solve and the need to behave like a network to accomplish these tasks. Working together, they will use linked computers, store information, employ a variety of retrieval techniques, and draw on a data base formed from their own responses. It is this exhibit that will pull together the museum's philosophy about communications. At the heart of this philosophy are the thoughts that we will survive if we communicate, that we can put technology at our service, that the computer and keyboard are to us as the cave wall and bone implement were to early man, and that our most wonderful tool is our unlimited ability to create new tools. ■



Hey, the reporter had this wrong! The course, called Compu-Tots, had 3-year-olds with their parents! →

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